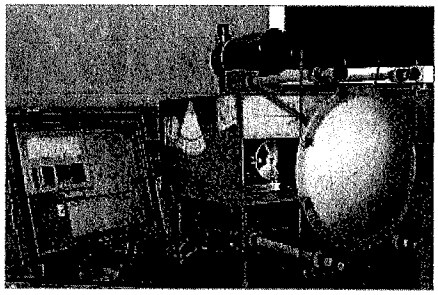
EXHIBIT C

Remote Chemical Detection

With increased concerns about national security has come the realization that acts of nuclear or chemical terrorism could endanger large numbers of people in a short span of time, as could industrial accidents in densely populated areas. Consequently, detection of chemicals in air, especially remotely, is of paramount importance to national security, counterterrorism efforts, leak detection, and environmental protection. To that end, Nachappa Gopalsami, Sasan Bakhtiari, Apostolos Raptis, and Thomas Elmer at Argonne National Laboratory, Ill., created the **Passive Millimeter-Wave Spectrometer for Remote Chemical Detection**, a passive spectrometer in the millimeter-wave region of the electromagnetic spectrum that is relatively immune to atmospheric interference and can detect chemical signatures from several kilometers away. Its primary function is to covertly or overtly monitor the chemical signatures of effluents emitted from suspect processing facilities with regard to nuclear proliferation detection. The uniqueness of the spectrometer results from the design of its hardware, which allows passive measurement of spectral lines from absorption/emission by polar molecules and the application of a millimeter-wave radiometric technique for terrestrial remote sensing of chemical plumes. This technology represents a significant new frontier in science, and the offshoots of this technology are expected to have many future industrial, scientific, and medical applications.



▶ **Argonne National Laboratory,** www.anl.gov

Making Wells SEQURE

With the widespread injection of large volumes of CO_2 into oil bearing formations for enhanced oil recovery (EOR), well searches have expanded to areas comprising hundreds of square kilometers. This need was the impetus for the development of **SEQURE Well Finding Technologies**, designed by the National Energy Technology Laboratory (NETL), Pittsburg, Pa., and Fugro Airborne Surveys, Mississauga, Ontario, Canada, Apogee Scientific, Inc., Englewood, Co., and LaSen, Inc., Las Cruces, N.M.

SEQURE uses magnetic and methane sensors deployed on helicopters to locate abandoned and leaking wells. Magnetic sensors detect wells by sensing the perturbation of the Earth's magnetic field caused by vertical steel well casing. Leaking wells are located by detecting methane from sedimentary strata that have migrated to the Earth's surface via the well bore. In the future, similar well searches will be required for proposed underground carbon storage sites. The incorporation of both magnetic and methane sensors on a helicopter platform permits the safe, rapid detection of wells.

▶ **NETL,** www.netl.doe.gov

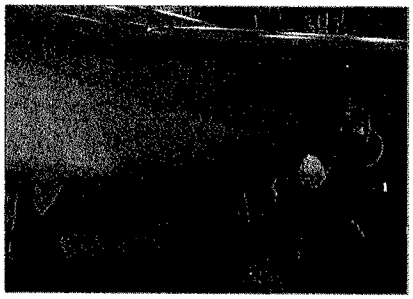
Generating Power from Waste Energy

A new technology exists that could fundamentally change the way power is generated. The **Harvestor**, developed by Farhad Mohammadi, Richard Cass, and Stephen Leschin at Advanced Cerametrics, Inc., Lambertville, N.J., is an energy harvesting device that converts waste mechanical energy into functional amounts of renewable electric power for sensors, handheld electronics, and independent systems.

The Harvestor is based on the high piezoelectric effect of lead zirconate titanate fibers in the form of composite. The fibers bend rather than break as do traditional ceramics. The piezoelectric ceramic fibers are assembled into piezoelectric fiber composites (PFCs). These composites are flexible and conformable and are assembled into or onto irregular shapes and scavenge ambient energy from vibration, flexion, compression, or torque, converting this into useful amounts of electricity. The PFCs are assembled into a harvesting device, the Harvestor.

The Harvestor provides a totally new, environmentally friendly source of power that is inexpensive, easy to produce, established, and extremely robust.

▶ **Advanced Cerametrics, Inc.,** www.advancedcerametrics.com



Mitigating Corrosion

There is a pressing need for environmentally friendly and benign methods and materials to mitigate corrosion on aluminum, especially aircraft. Until recently, chromates were the only corrosion inhibitors used on aluminum aircraft. Unfortunately, chromates are also human carcinogens, but replacing them has been exceedingly difficult.

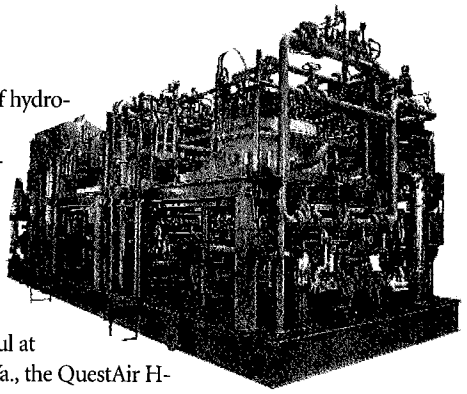
Enter **Deft's Benign, Corrosion Inhibiting Aircraft Primers 02GN083, 02GN084, and 44GN098**, developed by Eric Morris and Richard Albers at Deft, Inc., Irvine, Calif., and James Stoffer and Thomas O'Keef at the Univ. of Missouri-Rolla. The corrosion inhibitors used in these new benign aircraft primers are environmentally friendly rare earth compounds.

The primary corrosion mitigating method for aircraft is the coating stack-up which consists of an inorganic conversion coating, a primer, and a topcoat, applied in that order. When the coating stack-up is scratched or otherwise damaged, the primer must perform a key role in mitigating corrosion by "healing" the damaged area. Without this self-healing step, the aluminum would soon corrode and ultimately result in failure.

Like chromates, the rare earth compounds in the Deft primers are known corrosion inhibitors, but, when incorporated into primers by themselves, do not migrate on their own to heal damaged areas as do the chromates. The revolutionary aspect of Deft's new corrosion inhibiting technology and the resulting rare earth primers is the discovery of a method to transport these rare earth corrosion inhibitors to the corroded sites, forming a corrosion-inhibiting rare earth protective conversion.

▶ **Deft, Inc.,** www.deftfinishes.com

Recovering Hydrogen

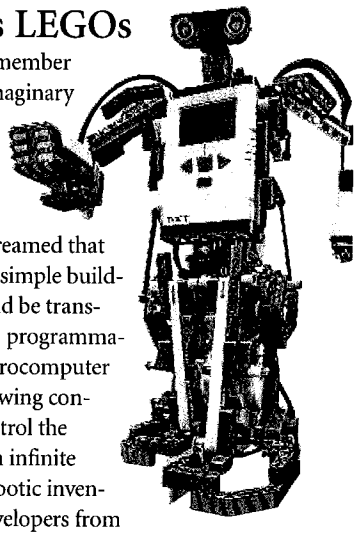


Oil refineries around the world are facing a shortage of hydrogen, brought about by increased processing of heavy, sulphur-laden crudes, as well as environmental regulations. The **QuestAir H-6200 Rapid Cycle Pressure Swing Adsorption System (RCPSA)** offers an effective solution to this hydrogen crunch by allowing oil refineries to recover hydrogen from waste streams.

Developed by Bowie Keefer at QuestAir Technologies Inc., Burnaby, B.C., Canada, and Bal Kaul at ExxonMobil Research and Engineering Co., Fairfax, Va., the QuestAir H-6200 combines novel structured adsorbents and rotary valves to routinely achieve two orders of magnitude higher productivity per unit of adsorbent material compared to conventional pressure swing adsorption (PSA). The resulting rapid cycle PSA is a fraction of the size of conventional PSA, and the mechanical embodiment is greatly simplified. This represents a major improvement on a technology that has been practiced and optimized for more than 35 years and provides the industry with an efficient and cost effective means of recovering hydrogen.

▶ **QuestAir Technologies Inc.,** www.questairinc.com

These Aren't Your Daddy's LEGOs

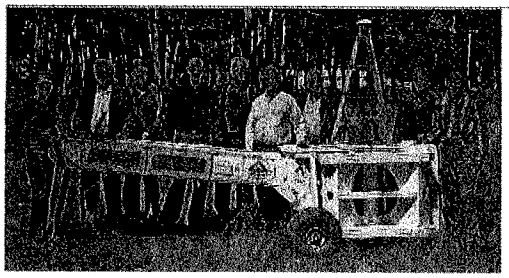


Most of us remember assembling imaginary creations with colorful LEGO blocks. Who would have dreamed that one day these simple building tools would be transformed with a programmable 32-bit microcomputer processor allowing consumers to control the behavior of an infinite number of robotic inventions? The developers from LEGO Systems, Inc., Billund, Denmark, did just that with **MINDSTORMS NXT.**

The new system includes the intelligent brick with flash memory and a new wire system with digital interface. So advanced are these LEGO bricks that Bluetooth technology enables wireless communication with computers, mobile phones, and PDAs. In addition, there are three interactive servo motors with built-in rotation sensors and speed control, plus sensors that enable the robots to react to sound, light, and touch.

An added benefit for consumers: the PC and Mac compatible software used for MINDSTORMS NXT is all open source and user friendly with an icon-based drag and drop environment.

▶ **LEGO Systems, Inc.,** www.lego.com



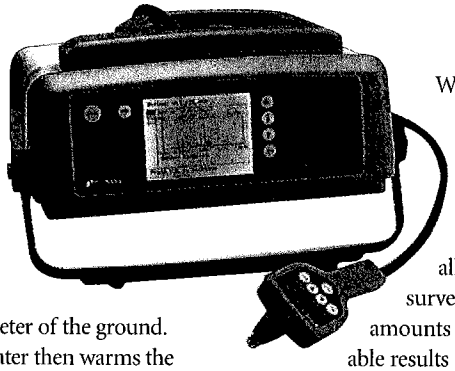
Using BUD to Clean Up

The Department of Defense (DoD)is tasked with cleaning up more than 3,300 sites comprising more than 28 million acres of land that are contaminated with unexploded ordnance (UXO). The problem is that as much as 99% of metal identified for excavation is harmless scrap, not UXO. As such, the DoD needs efficient technologies to not only detect buried metal, but also to quickly determine whether the object is UXO. To that end, researchers at Ernest Orlando Lawrence Berkeley National Laboratory, Calif., devised the **Berkeley Unexploded Ordnance Discriminator (BUD),** a multi-sensor electromagnetic system that differentiates explosives from harmless metal in real time. BUD quickly determines the location, size, and shape of buried UXO more quickly than any other technology. In the U.S., BUD will play an instrumental role in turning over millions of acres of former military land to civilian use. Globally, BUD will revolutionize the way UXO is detected and remediated, saving billions of dollars and possibly many lives.

▶ **Lawrence Berkeley National Laboratory,** www.lbl.gov

On-Site Chemical Anaylsis

Military personnel around the world need fast, accurate analysis of volatile and semi-volatile organic compounds, toxic industrial chemicals and materials, and chemical warfare agents (CWAs). To fill that need, researchers at INFICON, East Syracuse, N.Y., created the **HAPSITE Viper Chemical Identification System.** HAPSITE Viper is a gas chromatograph/mass spectrometer (GC/MS) integrated into a military reconnaissance vehicle which samples semi-volatile and volatile CWAs from soil, air, and water, providing confirmatory results in the field within minutes. The HAPSITE Viper can also be man-portable.



HAPSITE Viper is integrated into a chemical analysis vehicle that is designed to protect the occupants. Once the vehicle is in position, the HAPSITE 267 Surface Sampler is deployed to within a centimeter of the ground. A carefully controlled IR heater then warms the soil, and a sample is drawn from the air above the heated area to the CG/MS analyzer for positive chemical identification and quantification.

With a detection limit 1,000x more sensitive than the NATO requirement for semi-volatile detection, HAPSITE Viper allows military forces to survey an area for trace amounts of CWAs and get reliable results on-site for earlier warning and faster decisions affecting the safety of troops and civilians.

▶ **INFICON,** www.inficon.com